

## ABSTRACT OF THE DISCLOSURE

Dialysis solutions with enhanced biocompatibility are provided. The dialysis solutions include a first acidic solution and a second acidic solution that are admixed to form a ready-to-use dialysis solution with reduced levels of glucose degradation products prior to use. The first acidic solution includes a dextrose concentrate, and the  
5 second acidic solution includes a buffer concentrate, such as a lactate-based buffer. The first and second acid solutions are separately sterilized prior to mixing to form the ready-to-use dialysis solutions. The dialysis solutions can be used in a variety of different applications, such as infusion into a patient during peritoneal dialysis.